

Original Research Article

Clinico-microbiological profile of women with vaginal discharge

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Abstract

Introduction: The purpose of the study was to find out the clinic microbiological profile of women presenting with vaginal symptoms and outcome of the treatment based on the syndromic approach.

Aim: To find out the clinic microbiological profile of women presenting with vaginal symptoms. This study is to highlight the fact that laboratory diagnosis of vaginal discharge can be done as office procedure which avoids delay in initiating treatment.

Materials and methods: 104 cases presenting with vaginal discharge attending the gynaecological OPD at the department of obstetrics and gynaecology, Government General Hospital, Kurnool. October 2006 - October 2007 were included in the study.

Results: The leading types of reproductive tract infections in our study were bacterial vaginosis and candidiasis. Trichomonas was noted in 4 cases and Mixed infections was seen in 8 cases. Most of the bacterial vaginosis in our study were from the rural populations.

Conclusion: We concluded that standardised diagnostic procedures should be followed in each and every gynaecological practice where in the unnecessary delay in routine conventional testing procedure is bypassed.

Key words

Vaginal discharge, Clinico-morphology, Trichomonas, Bacterial vaginosis.

Introduction

Vaginal discharge is a common and troublesome complaint which can be seen in the women of all age groups. Studying the vaginal microflora is not only fascinating with many discoveries to be

made, it is also a very practical way to help women get rid of bothersome and sometimes fatal infections. They constitute a huge health and economic burden for developing countries and account for 17% economic losses because of ill health. Each year nearly 1.3 million women

die of reproductive health problems and are largely preventable [1]. The problem of RTI/STI morbidity in women is largely due to ignorance, low level of awareness, low female literacy, cultural factors and taboos – all withholding the women from seeking health care for RTI/ STIs. Many of these infections are asymptomatic and unnotified (80%Gonococcal and chlamydial) [2]. Some of the possible consequences of untreated RTI/STIs in women include menstrual abnormalities, pelvic inflammatory diseases, recurrent urinary tract infections, ectopic pregnancies, tubal infertility, still births, abortions and neonatal deaths and maternal deaths [3, 4].

The definition of leucorrhoea is accepted as an excessive vaginal secretion in which primary cause is not infective, any vaginal discharge which is frankly purulent and contains pus cells and from which the causative organisms can be isolated and cultured, should be considered as due to specific vaginal infection. The common pathogenic organism which causes specific vaginitis comprises bacterial, monolial and trichomoniasis. The traditional diagnostic algorithm incorporates patient's symptoms, clinical findings, laboratory analysis of vaginal discharge. Gram stained vaginal preparations, pap smears, specific cultures and nucleic acid detection techniques can be used to diagnose the constituents of the vaginal flora, but in trained hands office based microscopy of a fresh vaginal smear preferably using a X40 magnification and X100 magnification allows almost every diagnosis and combination of diagnosis imaginable. The purpose of the study is to find out the clinic microbiological profile of women presenting with vaginal symptoms and outcome of the treatment based on syndromic approach. To find out the clinic-microbiological profile of women presenting with vaginal symptoms. The study is to highlight the fact that the laboratory diagnosis of vaginal discharge can be done as office procedures which avoids delay in initiating pigments.

Materials and methods

104 cases presenting with vaginal discharge attending the gynaecological OPD at Department of obstetrics and gynaecology, government general hospital, Kurnool Oct 2006-2007 were included in the study.

Inclusion criteria

All the women of reproductive age group between 20-40 years with complaint of vaginal discharge.

Exclusion criteria

Cases of carcinoma cervix who also presented with discharge, and cases of pregnancy.

A detailed history was elicited and recorded. Pelvic examination was done in all patients.

The clinical findings including the odour, quantity, colour and nature of the vaginal discharge noted. A provisional diagnosis was reached at treatment initiated empirically.

Discharge was collected as per the standard guidelines for the following investigations.

- Estimation of PH
- Whiff Test
- Saline wet mount for TV
- 10% KOH wet mount for yeast cells
- Gram stained for yeast cells and clue cells
- Mid Stream urine and vaginal swab were sent for culture and susceptibility to the department of department microbiology, Kurnool medical college.

After the general examination and recording of vital a detailed genital examination was done with patient in the lithotomy position. External genitalia is inspected. Sims speculum is introduced into the vulva and the amount, colour, texture, odour, and location of the discharge noted. Discharge collected over the sims speculum is taken with a small dropper onto the glass slide for further investigations.

Immersing the pH indicator paper in the vaginal discharge present on vaginal speculum. Colour change on the paper yielded the pH. it was recorded.

Vaginal discharge was placed in a drop of saline on a slide a cover slip was placed and observed under the low and high power objective microscope for trichomonas and clue cells.

A drop of 10% KOH was added to vaginal discharge taken on a clean slide. Intense fishy odour indicated bacterial vaginosis.

A drop of vaginal discharge was placed on a slide containing a drop of KOH on a slide. A cover slip was placed and examined after 10 minutes under low and high power objective microscope. Presence of hyphae and budding yeast cells was recorded.

Gram Staining

- A smear of vaginal discharge was done on a glass slide and fixed by heat.
- Solution of crystal violet was poured allowed to act for 1 min.
- Gram's Iodine is poured and allowed to act for 30 seconds.
- Decolourised by absolute alcohol.
- Saffarine solution is poured and allowed to act for 1 min and washed.
- Under oil immersion objective yeast cells and clue cells and presence of cocci and gram negative bacilli was recorded.

Mid stream urine sample sent for culture and susceptibility to the department of microbiology, Kurnool medical college, Kurnool. Vaginal Swabs were sent for culture and susceptibility.

Results

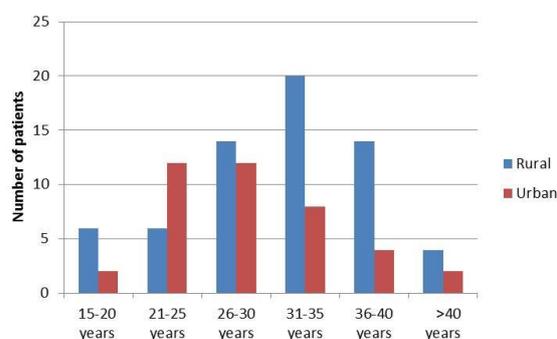
Majority of the cases were present in 31-35 years age group. (26.92%) followed by 26-30 years age group. (25%) reflecting the strong association of vaginal symptoms in reproductive age group (Table – 1).

Table - 1: Age Wise Distribution of Cases.

Age Group	Number Of Patients
15 – 20 years	8 (9.2%)
21 – 25 years	18(19.2%)
26 – 30 years	26(25%)
31 – 35 years	28(26.92%)
36 – 40 years	18(19.2%)
>40 years	6(7.8%)
Total	104

The study revealed significant and high incidents of reproductive tract infections in rural population (Graph – 1).

Graph - 1: Distribution among rural and urban population.



Since the prevalence of reproductive tract infections was significantly associated with age personal hygiene, type of napkin used during menstruation, gravid status type of attendant at child birth, invasive contraceptive and gynaecological surgeries.

Present study included 64% cases from rural areas and 40% cases from urban areas.

Discharge was predominant symptoms in all the age groups. In only two cases there was no discharge but with pruritis. In the age groups 21-25 years 26-30 years and 31-35 years discharge was followed by pain abdomen as presenting symptom. In 15-20 years urinary symptoms followed discharge. In 36-40 years age group predominant symptom was discharge (Table – 2).

Table - 2: Age wise symptomatology in study.

Age	Discharge	Pruritis	Pain Abdomen	Urinary symptoms	Back ache
15-20 years	8	6	2	6	2
21-25 years	18	8	10	8	
26-30 years	26	12	16	12	10
31-35 years	28	12	14	10	4
36-40 years	18	12	4	2	2
>40	2	2	2	2	2

Table - 3: Findings of lab investigations.

Age	Ph alkaline	Whiff test	Saline mount	10%KOH	Gram+ cocci	Gram – bacilli	Clue cells	Urine c/s	Vaginal swab
15-20 years	2	4		4			4		+ve for CPS CPS-4
21-25 years	4	9		14	4	4	8	Klebsiella-2	GNB-8 E.coli-4
26-30 years	10	13	4	8	2	2	8	E coli-2	+ve Ecoli-6
31-35 years	6	14	4	14	2	2	12	Klebsiella 2 E.coli 6	CPS-8 CNS-2 KLEB-2
36-40 years	10	9	2	4	2	2	12	Klebsiella 2 E.coli	CPS-6 E.coli-2
>40 years	4	3	2		2	2	4		CPS-2 CNS-2

(GNB-Gram –ve bacilli, CPS-Coagulase positive staphylococci, CNS-Coagulase negative Staphylococci)

Acidic pH was observed in most of the cases 46. With whiff Positive in 52 cases. 8 cases showed Trichomonas vaginal is in age 26-35 years 2 each in 36-40 years and >40 years (Table – 3).

Coagulase positive staphylococci were in 20 along with G.V. cases E. coli was seen in 12 along with G.V cases. Giardinerlla vaginosis were seen in 48 along with T.V. cases (Table – 4).

Bacterial vaginosis is present in 48 cases with 46.1% which is most common (Table – 5).

Discussion

In the present study 104 patients presenting with vaginal discharge were analysed for several criteria. Maximum no of 28 cases (26.1%) were in the age group of 31-35 years followed by age group 26-30 years with 26 cases (25%). Least number of cases were in the group of age is 15-20 years with 8 cases (7.1%). The commonest symptom in the presentation study is vaginal discharge followed by pruritis and pain abdomen. In the study of V. Gupta, et al. [5] also the presenting symptom was vaginal discharge >50% (Table – 6).

Table - 4: Bacterial flora in the present study.

Age	Coagulase positive staphylococci (CPS)	E.COLI	Giardinerlla vaginosis (G.V)
15-20 years			4
21-25 years	4	4	8
26-30 years	4	2	8
31-35 years	6	2	12
36-40 years	3	2	12
>40 years	3	2	4

(CPS – Coagulase positive staphylococci, G.V- Giardinerlla vaginosis)

Table - 5: Infection profile in the present study.

Disease	Incidence
Bacterial vaginosis	48(46.1%)
Candidiasis	44(42%)
Trichomonas	4(3.8%)
Mixed Infections	8(7.6%)

Table - 6: Comparison in various studies.

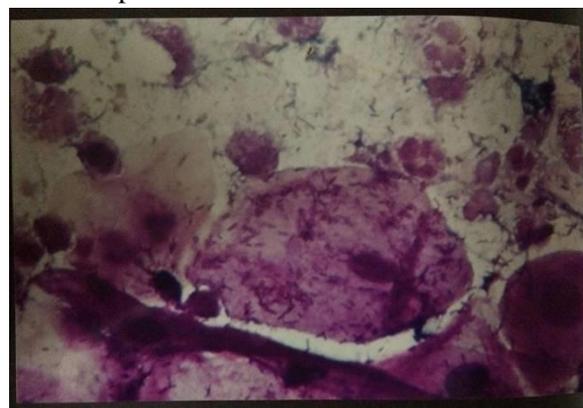
Study group	Discharge symptoms %
V. Gupta, et al., 2006 [5]	>50%
Monika Rathore, et al., 2007 [6]	26%
Present study	96.1%
Candidiasis %	
V. Gupta, et al. 2006 [5]	10 %
Monika Rathore, et al., 2007 [6]	14%
Ferris DG	20%
Present study	44%
UTI %	
V. Gupta, et al., 2006 [5]	18%
Monika Rathore, et al., 2007 [6]	69%
Present Study	9.6%

V. Gupta, et al., 2006 [5], presented with discharge symptoms by >50%. Monika Rathore, et al., 2007 [6] presented with discharge symptoms by 26% and present study with discharge symptoms by 96.1%. Candidiasis was noted and confirmed in 44 cases in the present study. Earlier studies too revealed candidiasis in significant proportion.

Significantly high incidence of 44% candidiasis is noted in the present study. Significance of UTI infection in association of vaginal discharge is studied only in 10 cases with 9.6% associated with vaginal discharge. V Gupta, et al., 2006 study presented with 2 cases (1.8%)

In the Present study, the Amsel Criteria for diagnosing bacterial vaginosis were met in Elevated pH>4.5, Positive Whiff test, Presence of clue cells were noted (**Figure – 1**).

Figure - 2: Clue cells in gram stain as seen under microscope.



V. Gupta, et al. presented with 48 cases (40.4%) of bacterial vaginosis. Monika Rathore, et al. presented with 69 case (26%) In present study 48 cases with 46.1%

E. Coli was found in 12 cases accounting for 11.53% of Aerobic bacterial vaginosis. In an earlier study by Donders G.G, et al. [7] Aerobic vaginosis was caused by E. Coli And Group B Streptococci. In the present study isolation and

identification for group B streptococci was not attempted.

The Incidence of Trichomoniasis in earlier similar studies was 9% in Gupta, et al., 7.4% in Haggerty CL, et al. [8] and Monika Rathore, et al. 8%. In our study 11.53% of trichomoniasis is observed including the infectious associated with bacterial vaginosis which is comparable and consistent with findings of Gupta, et al. [5].

Conclusion

Proper and convenient bed side diagnostic procedures are essential to initiate the therapy and in preventing the complications. The Leading types of reproductive tract infections. In Our Study is bacterial infection. Most of bacterial vaginosis cases in our study are from rural population.

We conclude that standardized bed side diagnostic procedures should be followed in each and every gynaecological practice where in, the unnecessary delay for routine conventional testing procedures is bypassed.

References

1. Rita caroline Issac. An Intervention Programme for RTIs among women in a selected area in Rural Tamil Nadu, India. South East Asian Studies Manual, 2000; 112-120.
2. Yasmin Irfan. Study of Reproductive Tract Infections and awareness in Tribal women in Keamari dist, Karachi, Pakistan. South East Asian Studies Manual, 2000; 141-142.
3. Mayaud P, Mabey D. Approaches to the control of STIs in developing countries: old problems and modern challenges. Sex Transm INFECT., 2004; 80: 174-182.
4. Taylor-Robinson D, Morgan DJ, Sheehan M, Rosenstein IJ, Lamont RF. Relation between Gram-stain and clinical criteria for diagnosing bacterial vaginosis with special reference to Gram grade II evaluation. Int J STD AIDS, 2003; 14: 6–10.
5. Ray K, Muralidhar S, Bala M, Kumari M, Salhan S, Gupta SM, et al. Comparative study of syndromic and etiological diagnosis of reproductive tract infections/sexually transmitted infections in women in Delhi. Int J Infect Dis., 2009; 13: e352–9.
6. Monika Rathore, Swami SS, Gupta BL, Vandana Sen, Vyas BL, Bhargav and Rekha Vyas. Community based study of self-reported morbidity of reproductive tract among women of reproductive age in rural area of Rajasthan. Indian Journal of Community Medicine, 2003; 28: 117-121.
7. Donders GG, Van Calsteren K, Bellen G, Reybrouck R, Vanden Bosch T, Riphagen I, et al. Predictive value for preterm birth of abnormal vaginal flora, bacterial vaginosis and aerobic vaginitis during the first trimester of pregnancy. BJOG, 2009; 116: 1315–24.
8. Haggerty CL, Totten PA, Ferris M, Martin DH, Hoferka S, Astete SG, et al. Clinical characteristics of bacterial vaginosis among women testing positive for fastidious bacteria. Sex Transm Dis., 2009; 85: 242–8.